



# SPEC® CINT2006 Result

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**IBM Corporation**

**SPECint\_rate2006 = 33.7**

IBM System x3250 M2 (Intel Pentium E5300)

**SPECint\_rate\_base2006 = 32.4**

CPU2006 license: 11

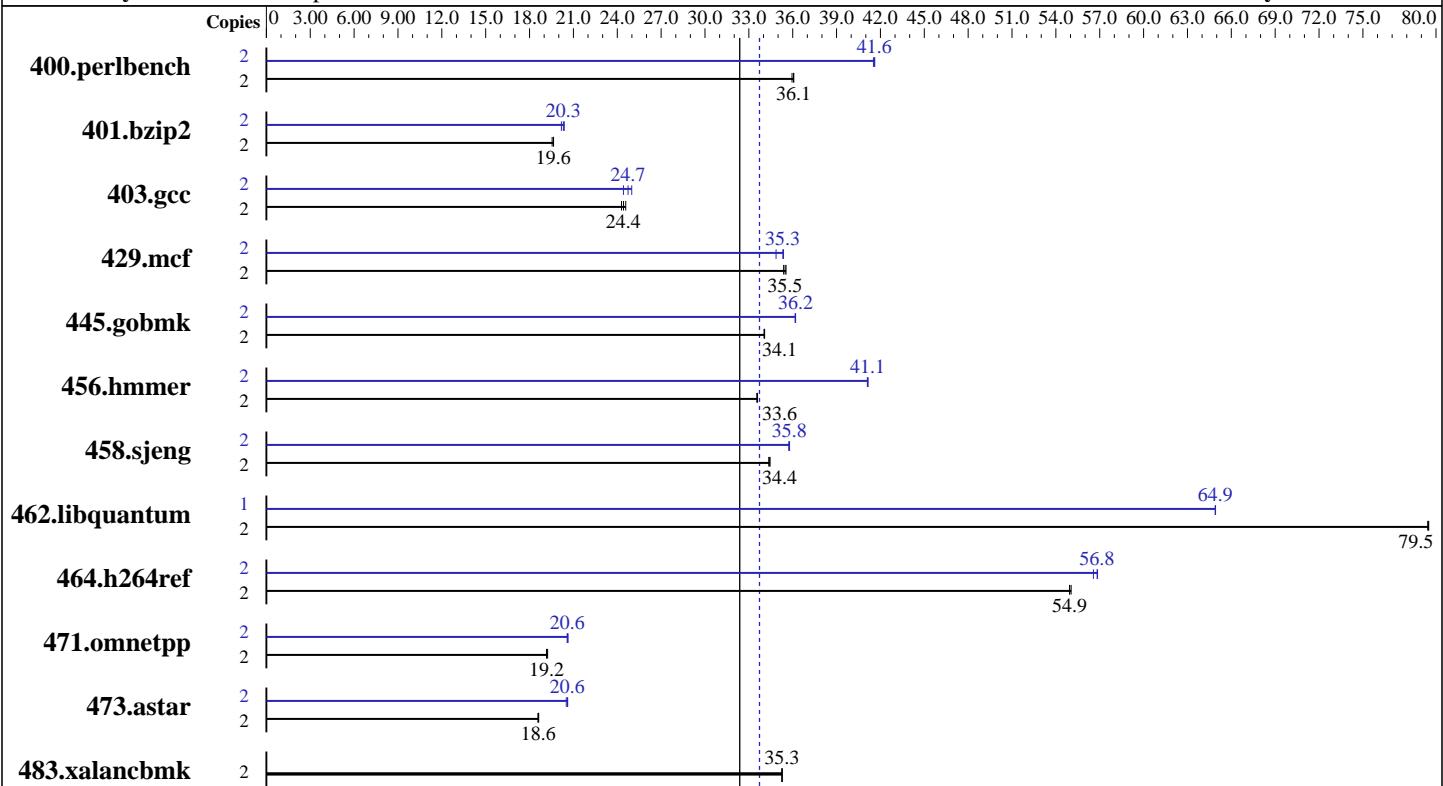
**Test date:** Jun-2009

**Test sponsor:** IBM Corporation

**Hardware Availability:** Apr-2009

**Tested by:** IBM Corporation

**Software Availability:** Nov-2008



**SPECint\_rate\_base2006 = 32.4**

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## Hardware

CPU Name: Intel Pentium E5300  
CPU Characteristics: 800 MHz system bus  
CPU MHz: 2600  
FPU: Integrated  
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
CPU(s) orderable: 1 chip  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 2 MB I+D on chip per chip  
L3 Cache: None  
Other Cache: None  
Memory: 8 GB(4 x 2 GB DDR2-6400E ECC)  
Disk Subsystem: 1 x 250 GB SATA, 7200RPM  
Other Hardware: None

## Software

Operating System: SuSE Linux Enterprise Server 10(x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
Compiler: Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l\_cproc\_p\_11.0.066  
Auto Parallel: Yes  
File System: ReiserFS  
System State: Run level 3 (multi-user)  
Base Pointers: 32-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	2	543	36.0	<b>542</b>	<b>36.1</b>	542	36.1	2	471	41.5	<b>470</b>	<b>41.6</b>	470	41.6
401.bzip2	2	987	19.5	983	19.6	<b>983</b>	<b>19.6</b>	2	947	20.4	<b>950</b>	<b>20.3</b>	957	20.2
403.gcc	2	<b>659</b>	<b>24.4</b>	663	24.3	655	24.6	2	<b>651</b>	<b>24.7</b>	659	24.4	644	25.0
429.mcf	2	516	35.4	513	35.5	<b>514</b>	<b>35.5</b>	2	<b>516</b>	<b>35.3</b>	516	35.4	523	34.9
445.gobmk	2	616	34.1	<b>616</b>	<b>34.1</b>	616	34.0	2	<b>580</b>	<b>36.2</b>	580	36.2	580	36.2
456.hammer	2	555	33.6	556	33.6	<b>556</b>	<b>33.6</b>	2	454	41.1	453	41.2	<b>454</b>	<b>41.1</b>
458.sjeng	2	704	34.4	703	34.4	<b>703</b>	<b>34.4</b>	2	677	35.7	<b>677</b>	<b>35.8</b>	676	35.8
462.libquantum	2	522	79.4	521	79.5	<b>521</b>	<b>79.5</b>	1	<b>319</b>	<b>64.9</b>	319	64.9	319	64.9
464.h264ref	2	806	54.9	<b>806</b>	<b>54.9</b>	804	55.0	2	782	56.6	779	56.8	<b>779</b>	<b>56.8</b>
471.omnetpp	2	650	19.2	<b>652</b>	<b>19.2</b>	652	19.2	2	607	20.6	606	20.6	<b>607</b>	<b>20.6</b>
473.astar	2	<b>755</b>	<b>18.6</b>	756	18.6	754	18.6	2	<b>682</b>	<b>20.6</b>	684	20.5	681	20.6
483.xalancbmk	2	391	35.3	391	35.3	<b>391</b>	<b>35.3</b>	2	391	35.3	391	35.3	<b>391</b>	<b>35.3</b>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The config file option 'submit' was used.

## General Notes

taskset was used to bind processes to cores except  
for 462.libquantum peak  
Hardware Sector Prefetch Enable and Adjacent Sector Prefetch Enable  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 64M

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

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## Base Portability Flags (Continued)

462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/Compiler/11.0/066/bin/intel64/icc

456.hmmr: /opt/intel/Compiler/11.0/066/bin/intel64/icc

C++ benchmarks:

icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmr: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX



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## Peak Optimization Flags

C benchmarks:

```
400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
                -no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
                -no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc
                -opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
                -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -O2 -ipo
                -no-prec-div -ansi-alias

456.hmmr: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2
                -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
                -no-prec-div -static -unroll4

462.libquantum: -xSSSE3 -ipo -O3 -no-prec-div -static
                -opt-malloc-options=3 -parallel -par-runtime-control
                -opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
                -no-prec-div -static -unroll2 -ansi-alias
```

C++ benchmarks:

```
471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
                -no-prec-div -ansi-alias -opt-ra-region-strategy=block
                -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
                -no-prec-div -ansi-alias -opt-ra-region-strategy=routine
                -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: basepeak = yes
```

## Peak Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```



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The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090902.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090902.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.

Report generated on Tue Sep 23 18:18:06 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 2 September 2009.